

APR 10 1978
UNITED STATES GOVERNMENT
NATIONAL PARK SERVICE
JOHN DAY, OREGON
Memorandum

TO : John Reynolds, Denver Service Center

DATE: March 24, 1978

FROM : Jim Rouse, Pacific Northwest Region

SUBJECT: John Day Fossil Beds National Monument General Management Plan

Act.	Title	Init.	Date
☒	Supt.		
☒	Staff Asst.	BK	4/28
	Admin. Clk.		
	Pk. Tech.		
	Pk. Tech. Asst.		
	Clk. Typ.		
☒	File		

Enclosed are the following elements to be incorporated in the subject plan:

A. Resource Management

This is our prepared product that has the concurrence of the Superintendent, Ernie Borgman, and Jim Thompson.

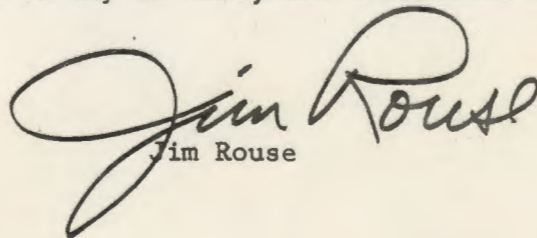
B. Land Aquisition and Boundary Adjustment Section

C. A map of the Clarno are indicating the proposed interpretive trail to the Petrified Tree area

Also enclosed is a copy of a letter from Joe Jones given to us last year. This letter includes his recommendations for this interpretive trail at the Clarno unit. (They are found on pages three and four.) As you and I discussed, the reference to this trail in the Visitor Use and General Development sections of the General Management Plan should not indicate the destination to the nut beds or mammal quarry but should be stated as follows:

"At Clarno, a loop trail from the parking area to the top of the Palisades continuing northeast up Hancock Canyon to view the petrified tree forms and return to the parking area by way of Indian Canyon will give the visitor access to interesting scenic views and geological formations."

If you have any questions on any of this, don't hesitate to call.


Jim Rouse

Enclosures

cc: General Superintendent, Klamath Falls Group
Superintendent, John Day



5010-110

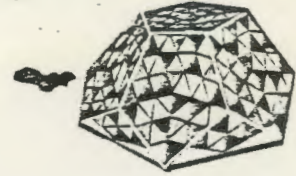
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August 12, 1977

James S. Rouse
National Park Service
Fourth & Pike Building
Seattle, WA 98101

Jim:

From the discussion we had with Representative Ullman it appeared evident that his course of action would be to wait on the proposed boundary changes I suggested until he has received comment on them from the Park Service. (From which level of the Park Service he wanted the evaluation I am not certain.) If a positive evaluation from the Park Service is received prior to the time his bill concerning modifications of the John Day Fossil Beds National Monument comes before the committee, it is my understanding that he will at that time request that his bill be modified to include the boundary changes which I have suggested.

So that you or the appropriate individuals within the Park Service can write this evaluation I am enclosing a map showing the boundary changes I have suggested, a legal description of the additional lands that would be included and the reasons for which I propose these boundary changes.

One item of particular importance which I neglected to point out to Representative Ullman is that seven of the fifteen 40-acre units of land involved in the boundary extension, or over 46 percent, are federally owned lands managed by the Bureau of Land Management.

Sincerely,

JOSEPH JONES III

Joseph Jones, Director
Hancock Field Station
Fossil, OR 97830

DESCRIPTION OF PROPOSED ADDITION

The lands that I have proposed be added to the Clarno Unit of the John Day Fossil Beds National Monument consist of six hundred acres of land. Three hundred twenty acres of this land is private and belongs to Catherine Maurer of Antelope. Two hundred eighty acres of this land belongs to the federal government and is managed by the Bureau of Land Management.

One hundred twenty acres of this land lies in section 23, T. 7S., R. 19 E., and four hundred eighty acres of this land is in section 26, T. 7S., R. 19 E.

Federal lands that would be added to the monument include:

- 1) The $SE\frac{1}{2}$, $SE\frac{1}{4}$ of section 23, T. 7S., R. 19 E., which totals 80 acres.
- 2) The $NE\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 160 acres.
- *3) The $SE\frac{1}{4}$, $SE\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 40 acres.

**Total of public lands that would be added to the national monument: 280 acres.

Private lands that would be added to the monument include:

- 1) The $SE\frac{1}{4}$, $SW\frac{1}{4}$ of section 23, T. 7S., R. 19 E., which totals 40 acres.
- 2) The $E\frac{1}{2}$, $NW\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 80 acres.
- 3) The $E\frac{1}{2}$, $SW\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 80 acres.
- 4) The $W\frac{1}{2}$, $SE\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 80 acres.
- ***5) The $SE\frac{1}{4}$, $SE\frac{1}{4}$ of section 26, T. 7S., R. 19 E., which totals 40 acres.

Total of private lands that would be added to the national monument: 320 acres.

*This 40 acres is presently administered by the National Park Service. It was transferred from BLM since the monument was established.

**Total acres of public lands proposed should be 240 acres.

***This should be $NE\frac{1}{4}$, $SE\frac{1}{4}$.

(These correctional notes made by Pacific Northwest Region, National Park Service, August, 1977.)

FEATURES WITHIN PROPOSED ADDITION

Included within the boundaries I am proposing are two archaeological sites, a small ravine containing fossilized trees of the Clarno Age, an area yielding large museum-quality quartz geodes, and the lower portion of Indian Canyon with its high potential as an interpretative trail site.

The first archaeological site has a number of red pigment pictographs which are protected by a large low overhanging rock shelter. This site has potential as an interpretative site for the Indian aboriginals who once inhabited the area. As the Northwest Region of the Park Service has not previously been involved in the interpretation of native Indian sites, this would offer a new direction for the Park Service interpretative programs in this area.

The second archaeological site, officially catalogued as 35WH13, has been excavated by a student research team during the past five field seasons. At least four different occupational layers have been identified, dating as far back as 1545 years before present for the third layer. A date for the fourth layer has not yet been established, but the Carbon 14 dates, when returned, may prove the site was originally occupied over 2000 years ago.

The ravine containing fossilized trees of the Clarno Age includes the large Hancock Tree, partially exposed by excavation, as well as a number of other trees still largely buried in the mud flow. Several of these trees are preserved in their original standing position. The Hancock Tree is a unique example of unusual fossil preservation, and there is little doubt it will require protection if it is not to be carried away in fragments by private collectors. In the opinion of many, the Hancock Tree is probably the most impressive single item of fossilized material present in any of the three units of the John Day Fossil Beds National Monument and is certainly deserving of preservation for the visiting public.

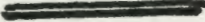
In the geode locality, about one-fourth mile northeast of the second archaeological site in Indian Canyon, there have recently been found several museum-quality quartz geodes ranging in size up to $2\frac{1}{2}$ feet in length and $1\frac{1}{2}$ feet in diameter. The need for protection for this geode locality was indicated last fall when a couple of the largest geodes were broken into by private collectors who fractured these specimens apart for the individual crystals they contained. The spectacular crystal growth in the interior of these geodes is demonstrated by the news coverage one particular specimen received last year when taken intact to the Portland area.

There seems to be great interest in establishing a natural science interpretative trail within the Clarno unit of the national monument. The lower portion of Indian Canyon presents an excellent opportunity for designing a really exciting and educational interpretative path for the public visiting the Clarno unit of the monument. It would

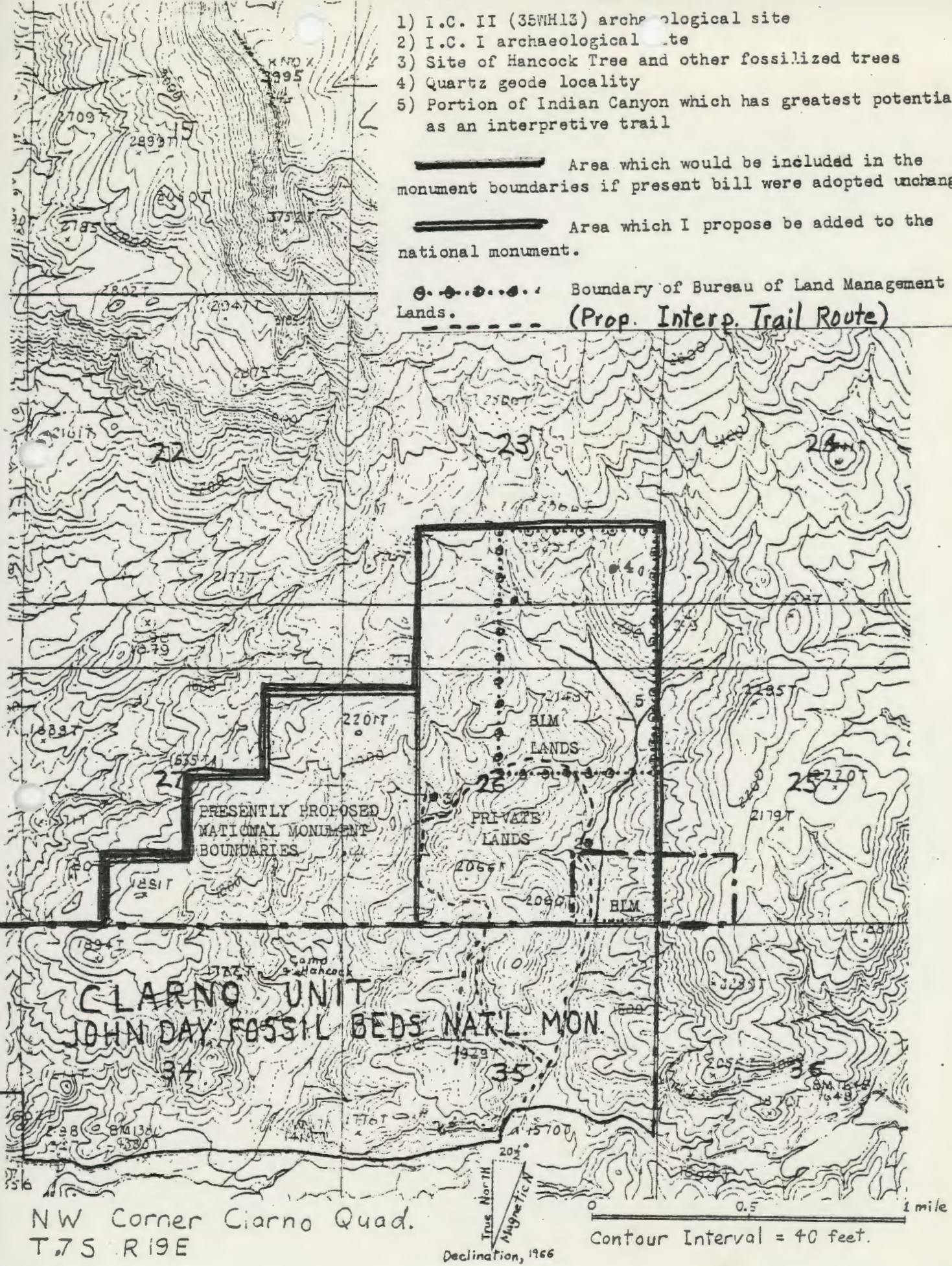
provide for: the viewing of one of the best examples of the Clarno Age mud flows in the area; a walk through one of the most scenic small canyons of the Clarno Basin area; the viewing of active birds of prey nests including raven, American kestrel and red-tailed hawk nests; a visit to the lower archaeological site, which could house an interpretive display under its overhang; and by dropping through one of the saddles from Indian Canyon into the upper part of Hancock Canyon, the interpretative trail could take in the Hancock Tree, a small unit of Clarno Age basalt, and a ridge top that would provide probably the best location available for a geologic interpretive site for the Clarno Basin.

- 1) I.C. II (35WH13) archaeological site
- 2) I.C. I archaeological site
- 3) Site of Hancock Tree and other fossilized trees
- 4) Quartz geode locality
- 5) Portion of Indian Canyon which has greatest potential as an interpretive trail

 Area which would be included in the monument boundaries if present bill were adopted unchanged.

 Area which I propose be added to the national monument.

 Boundary of Bureau of Land Management Lands.
 (Prop. Interp. Trail Route)



NW Corner Clarno Quad.
T.7S R.19E

Declination, 1966

Contour Interval = 40 feet.

RESOURCE MANAGEMENT
JOHN DAY FOSSIL BEDS NATIONAL MONUMENT

Management Categories

I. Natural Landscape

- A. Paleontology
- B. Scenic Values
- C. Vegetation
- D. Wildlife
- E. Water
- F. Fire

II. Cultural Values

- G. Historic Scene
- H. Agricultural Use
- I. Archeology

RESOURCE MANAGEMENT

INTRODUCTION

It is the purpose of this plan to identify the past history of each of the Monument's resources, state the current conditions which exist, propose a management action, and project the results of impacts if no management action is taken. The resource management plan proposes actions which are necessary to protect Monument resources from further deterioration and where possible, rectify existing conditions which pose a threat to the Monument resources or adjacent landowners, and are necessary for compliance with existing legislation.

The National Park Service is obligated by law to manage the natural and cultural resources within its areas in such a way that they will be preserved or perpetuated in as nearly their natural and authentic a state as possible. The most important resource at John Day Fossil Beds is, of course, its paleontological resource. However, the vegetative and faunal resources must also be managed to perpetuate a natural state, and in such a manner that there are as few adverse effects on adjacent landowners as possible. In addition, the cultural (historical and archeological) resources must be identified and cared for appropriately.

Resource Categories

I. Natural Landscape

Management Category A: Paleontology

Current Condition

The resources within the national monument are not in themselves unique. The same geologic formations, for example, occur throughout a much more extensive area than the John Day Basin. Probably nowhere, however, can the story of earth history be presented and interpreted for public benefit and enjoyment as clearly or in so compact an area as within the Monument.

This region is the only one in the world in which an essentially continuous sequence of mammalian fossils extends over an interval of seven million years (a radiometric date for a fauna correlative with one of the older of these faunas is 28 million years; the data for a correlative of the youngest in the continuous sequence is 21 million years).

"The Mascall flora is one of those rare occurrences of fossil plants with an associated mammalian fauna and a radiometric age (15.4 million years)."
(Shotwell)

Virtually all the surface area of the two small leaf "imprint" fossil hills at the Painted Hills Unit has been disturbed by past digging. Visual appearances indicate that an abundant amount of leaf imprint material remains, however.

The leaf and wood material embedded within the volcanic mudslide material at Clarno has not been extensively disturbed. The material is embedded over a large area and is not of specific interest to collectors. Interest in the Clarno area has been historically centered upon the Clarno Nut Beds and mammal quarry which lie outside the established boundary.

The amount of exposed fossil mammal material which currently exists within the Monument is extremely limited. Warning signs, information boards and personal contacts are current methods used to discourage collecting, but these are not entirely effective.

An Antiquities Act Permit for collection of paleontological material has been issued to the University of Washington and remains in effect. A second request has been received and will be issued to Oregon State University in 1979.

A Scope of Collections Statement for the Monument clearly sets forth the guideline for all such collections.

Legislation was introduced (July 5, 1977 and again in January, 1978) which would adjust the Monument boundaries and allow purchase of lands which contain significant paleontological resources. Adjustment of the boundary at the Clarno Unit would include the fossil nut beds, mammal quarry, and large specimens of fossilized trees, as well as two known archeological sites.

Condition Sought

Ideally, the boundaries of the Monument unit should encompass all of the important paleontological features immediate to extend protection from unauthorized collecting and disturbance. Scientific research conducted by qualified persons will be encouraged to expose representative fossils, allow the establishment of collections to be housed in locations that make them available to paleontologists for scientific study, and to provide methods of interpreting fossil remains and paleontological techniques at excavation sites and in display areas. All research will be based upon a research proposal approved by the National Park Service, and upon issuance of an Antiquities Act Permit.

Access to paleontological sites should be provided only at sites that can be reached without adversely affecting buried or exposed fossils and which can offer sufficient controls to prevent unauthorized access into these sites.

Important formations that lie outside Monument boundaries should be included within the Monument if such lands can be purchased or exchanged for lands within the boundary that are not essential to the purposes for which the Monument was established.

Proposed Management Actions

Protection of the fossils will involve several methods. Development of visitor sensitivity to the resource will certainly be a major thrust in all three units. Wayside exhibits to achieve visitor sensitivity will be installed by summer 1978.

Interpretation and protection of fossil resources by National Park Service personnel will be emphasized.

Protective signs which warn against destruction or removal of fossil resources will be placed at critical locations.

The leaf fossil hills at Painted Hills cannot be protected by the aforementioned means. If other protective means cannot be found a chain link fence will be constructed to prevent damages to these fragile resources in this area. Prominent interpretive devices will be developed to achieve optimum interpretation as well as protection.

Only limited travel, e.g., conducted group tours, will be allowed to visit the Fossil Nut Beds and the mammal quarry at the Clarno Unit.

In areas of heavy human impact, e.g., Turtle Cove and Foree area, interpretive trails will be constructed which include wayside exhibits and/or other interpretive devices explaining the paleontologic and geologic features. These trails will both bypass and enter exposed fossil-bearing formations to achieve both protection and interpretation.

Trail-side use of fossil material which has been exposed in situ will be considered at Turtle Cove and Foree. If adequate fossil material cannot be located, consideration shall be given to positioning of fossil replicas at appropriate places. Devices such as plastic bubbles, will be used as protective devices for these exhibits.

Research programs will be encouraged (since there is no feasible means of protecting fossil resources from weathering). Prime fossils that have

been exposed through natural processes will be mapped and located for examination by professional paleontologists, and removed if necessary. Such fossils will not be collected by unqualified National Park Service personnel.

Following is a listing of priorities for fossil protection as compiled by Dr. Rensberger. The priorities are based upon the likelihood of loss of a resource if no protection is provided and the magnitude of the loss if it occurs.

Priority 1

Sheep Rock locality

Turtle Cove locality

Foree locality

Priority 2

Mascall ranch localities

Bridge Creek flora type locality

Priority 3

Mascall Overlook leaf locality

Management Category B: Scenic Values

Current Condition

Private lands within the boundaries do not at present constitute a distraction in view of the management objective to integrate natural and ranching scenes. Potential does, however, exist for adverse development to occur in the future.

A ranch scene (circa 1920) nestled in a valley surrounded by rimrock and colorful geologic exposures characterizes the scene at Sheep Rock. A highway runs along the river and offers opportunity for spectacular viewpoints.

Spur roads to Turtle Cove and Foree do not impinge upon the natural scene, but at each of these locations scenic views include lands outside the Monument. Cathedral Rock is also a roadside feature which has no insulation from surrounding public lands.

Little evidence of man's impact on the scene exists at Clarno except for subtle evidence of grazing and the Camp Hancock enclosure. Camp Hancock, an Oregon Museum of Science and Industry site leased from the Bureau of Land Management, is cuddled in a little canyon surrounded by hills which hide it from view from all directions. Some indiscriminate trailways have been worn into the hillsides by residents and users of the Camp.

A major scenic problem is of particular significance at Painted Hills. This area of very little vegetation attracts off road vehicles, motorcyclists, and hikers who traverse and scar the colored hillsides. A county road passes

through the middle of the unit where the highest scenic values exist. To prevent off-road travel, the state, prior to National Park Service acquisition, erected an unsightly four-wire steel post fence along each side of the road. No trees, shrubs, or other natural features shield it from view. Previously existing foot trails worn into the very fragile hillsides have been quite successfully erased by "raking out" and subsequent natural weathering. A few have been left for people to use temporarily.

Road signs are provided by the state as requested by the Monument.

Entrance signs are placed on state right-of-way by the National Park Service.

Condition Sought

The scene should be a pleasing mixture of a natural and pastoral landscape. Highways and roads should be kept at a minimum but sufficient to provide thoroughfare, and limited access to destinations that are compatible with natural and other scenic values. Alteration of existing roads should be done only to enhance the scene and provide legitimate accessibility. Trails should be provided for specific, complementary purposes; others obliterated. Off road vehicle use should not be permitted except on cultivated lands for agricultural purposes. Restrictive measures for preventing off road use should be accomplished in a manner that does not detract from the scene.

Proposed Management Action

On-going liaison with Grant and Wheeler County Planning Commissions will be required to perpetuate land uses (grazing and hay production) now existing

adjacent to Monument lands and prevent structures from being built which would impinge upon the natural, or pastoral scene.

Some minor realignment of state highways is contemplated and will generally complement scenic attributes. No detractions are envisioned. No Monument lands will be affected by realignment, and no changes of rights of way are anticipated except for some possible relocation at the Mascall Overlook. Close coordination with the State Highway Department will be maintained to assure preservation of scenic values.

All development projects will be carefully reviewed to assure greatest possible conformity to aesthetic considerations.

As depicted on the land status map, accompanying proposed legislation, two parcels of private land are identified for acquisition of scenic easement or fee. Acquisition in fee would be preferable and would provide for the scenic protection desired. However, should cost or other negotiating problems arise, satisfactory resolution can be achieved by scenic easements.

As detailed in the General Development section of this plan, permanent, well-defined trails will be provided for hikers and will hopefully reduce indiscriminate cross-county travel. A selected few new trails will be built to reach special points of interest in each unit. Old trails (leading to or near to currently existing destinations) will be consolidated in existing use areas, particularly in the Painted Hills Unit.

Ideally, the access road in the Painted Hills Unit should be relocated away from the middle of the scenic overview, but feasibility of achieving this is not promising. For the foreseeable future, this access road will remain in its present location, but will be improved to better confine traffic. Innovative design will be required and is necessary so that the fence on each side of the road can be removed as soon as possible.

Although rerouting of the road does not now appear feasible, continued investigation of possibilities should be pursued in the future.

Management Category C: Vegetation

Current Condition

Approximately 200 acres of the river bottom lands within the Sheep Rock Unit are irrigated hay lands. Numerous exotic plant species are associated with this haying operation.

Excerpts from the 1977 Report on Plant and Plant Communities by Youtie and Winward state, "The damage presently occurring on the Monument appears to be minimal except immediately adjacent to watering sources. Under present management these areas will likely stay in a poor but stable condition. On the remainder of the Monument the range should begin to show improvement but at an extremely slow rate. Even if livestock are completely removed from the park the rate of improvement would be extremely slow, especially on the severely disturbed sites. Without use of "artificial techniques for improvement, a return to good or excellent conditions will likely require hundreds of years. In fact, this may never be attained due to the lack of seeds from original species and the strong competition from exotic and increaser species. Similar sites in other areas of the sagebrush-grass region have shown essentially no improvement after 35 years of complete protection within exclosures."

Grazing is currently taking place under conditions of negotiated settlement for land acquisitions (see "Agricultural Use").

Condition Sought

The Natural Zone should be managed to permit a natural plant succession to occur as a balanced environment and as a habitat for wildlife dependent upon it. Where exotic plants occur as a result of man's use of the land, causing natural growth and reproduction to be jeopardized, rehabilitation programs should be implemented to stop the adverse effect and restore ground cover to natural levels. Native species should be seeded when possible. Riparian habitats should receive particular attention to protect water courses and the wildlife dependent upon them.

Use of agricultural lands should be confined to those previously cultivated areas that are determined to be important to the history of the Monument and should be authentic in the type of agriculture indicative of the early settlement of the area.

Proposed Management Action

Excerpts from Report on Plant and Plant Communities by Youtie and Winward state, "If original vegetation is to be restored some artificial improvement will have to be employed. Reseeding of traditional range forage species does not meet the goal of restoring native vegetation but still may remain a viable alternative for establishment of perennial species."

"Reestablishment of native species is a problem since seeds are difficult to obtain. Seeds can be purchased from a few commercial seed companies or from professional collectors. However, seed for the Monument may have to be hand collected from the nearest native stand available. The John Day, Clarno geologic formations have unique soil properties and seed from outside sources may not be adapted to this environment. If seed from native species are used they should be checked for viability before large quantities are harvested."

Reseeding of native species will be accomplished by one or more of the following methods:

1. Prepare seedbed using standard range methods such as plowing, discing or chaining. This method would only be used to reclaim agricultural lands.
2. Seed direct using a rangeland drill placing seeds directly into the soil without preparing seedbed. The row pattern and getting some types of seed to move through the drill are two difficulties that may be encountered.
3. Hand plant the native species. This appears to be an insurmountable task but if small areas are treated each year eventually the disturbed portions of the Monument should begin to show an upward trend in condition. Seeds from native species would not need to be planted with the idea of obtaining dense stands. Instead, establishment of scattered individuals would speed up the successional process considerably. The method would be much more adaptable to the mountainous type terrain which characterizes a considerable part of the Monument.

Communities that need such treatment are: Atriplex confertifolia/
Poa sandbergii, Artemisia tridentata/Poa sandbergii, Sarcobatus
vermiculatus/Bromus tectorum (exotic), Gutierrezia sarothrae/
Bromus tectorum (exotic).

Youtie and Winward offer further advice on techniques and methodology which is recognized as valuable reference material and will be used as a basic guide. Further research is needed to achieve total objectives.

Boundary fences around all three units will be constructed to control movement of livestock from adjacent areas. These fences will also help people distinguish Monument lands from other federal and private land."

A portion of the southeast corner of the Sheep Rock Unit will be considered as a Research Natural Area site. This area contains portions of each of the major fossil-bearing strata within the unit.

The reestablishment of native riparian habitat will be accelerated by judicious planting of willow, cottonwood, etc., as impact of livestock use is reduced and more natural stream flow is achieved.

The current program of ridding the Monument of what Grant and Wheeler counties have classified as noxious, non-native weeds shall continue.

These are principally:

Tribulus terrestris (puncture vine)

Cardaria draba (white top)

Centaurea renens (Russian knapweed)

Management Category D: Wildlife

Current Condition

A drastic change in faunal composition of the region has evolved in the past hundred or so years due to intensive settlement and agriculture. However, deer and coyotes have survived and flourished in all three units. Mink, beaver, muskrat, and raccoons are occasional residents within the Sheep Rock Unit; bobcats inhabit all three units. Rabbits, squirrels, gophers, and other rodents are common residents throughout the Monument. Partial bird lists have been compiled. Comprehensive lists of reptiles, amphibians, and anthropods have not been compiled.

A major concern on the part of neighboring ranchers is the refuge that will be provided for coyotes on Monument lands. Opinions have been expressed that, "Coyotes foraging out of the Monument will attack, kill and devour livestock and then return to their haven of protection." It is not known how serious a problem this actually is or might become.

Deer depredation, particularly to alfalfa fields, occurs on lands adjacent to the Monument, particularly the Sheep Rock Unit. It is obvious that deer do feed in fields within the Monument. It is not known how far they range outside of if in fact "Monument deer" do cause outside damage.

Chukar partridge and pheasant have become established in all units. Mouflon sheep periodically wander into the Painted Hills Unit. No threatened or endangered wildlife species are known to inhabit the Monument at this time although research may reveal some present.

Three gallinaceous guzzlers (wildlife watering devices) previously installed by the state of Oregon are located in the Sheep Rock Unit.

The state of Oregon has jurisdiction over waters which flow through the Monument. Steelhead use the John Day River and tributaries for spawning. Other species of fish include: redband trout and spring chinook salmon (native); brook trout, rainbow trout, dolly varden, cut-throat trout, Montana whitefish, small-mouth bass, channel catfish, black bullhead and brown bullhead (introduced). Freshwater sculpin, and miscellaneous minnows, carp, suckers and lamprey are also present.

Extensive wildlife habitat modification exists because of the intensive human settlement; particularly obvious is the livestock grazing versus wildlife use, fence barriers, and stream channelization. The John Day River has been channelized along much of its length, to "reclaim" bottom land and to facilitate irrigation.

A research report entitled Raptors of the John Day Fossil Beds National Monument exists in draft form.

Condition Sought

With proper management of the habitat, wildlife should be maintained at natural levels. Many species are transient populations that range over areas beyond Monument boundaries. Hunting will not be permitted.

Introduction of native species should be based upon studies that demonstrate the need and the ability of the habitat to sustain increased populations. Manipulation of the habitat may be necessary to restore natural conditions

for mammals, birds, fish, or reptiles.

Exotic species should be eliminated from Monument units where possible.

Need to identify threatened and endangered species using/inhabiting Monument as breeding on seasonal population.

Proposed Management Action

Adherence to the basic National Park Service philosophy for wildlife management on a non-manipulated basis is not possible. Particular circumstances call for a variation from this policy because of the limited land areas involved and the extensive degree of habitat modification which has taken place over the years. Restoration to as near natural conditions as is reasonably practical is the objective.

First in the plan for action will be a comprehensive survey of all wildlife inhabiting the three units of the Monument. Threatened or endangered wildlife will be identified and their seasonal or breeding status determined. This survey will also identify species known to have inhabited the area in the past.

Deer management programs will be derived from a research program designed to monitor herd movements and population levels. Any management program will be coordinated with the Oregon Fish and Wildlife Commission. Should it be determined that a segment of the Monument's resident deer herd is causing depredation, appropriate methods to alleviate the situation will be implemented in cooperation with the Oregon Fish and Wildlife Commission, consistent with Park Service policies.

A research program to monitor coyote movements and population levels will also be initiated as funding becomes available. This research and subsequent action will also be coordinated with the Oregon Fish and Wildlife Commission.

Although the chukar partridge is an exotic, it is not feasible to eliminate the species from the Monument. The same is true with pheasant. No research or management programs are called for regarding these two species.

Data as to the effect the three gallinaceous guzzlers have on wildlife populations must be collected and analyzed before any determination is made for removal. An option to move the guzzlers to adjacent lands outside Monument boundaries must remain open, and any such action will be coordinated with the Oregon Fish and Wildlife Commission.

Raptor management shall be based on continued monitoring and enhancement of nesting sites coupled with rehabilitation of riparian habitat.

Fishing will continue in those waters designated as open to fishing by the Oregon Fish and Wildlife Commission. The state will have the authority to establish seasons, species taken, and limits, and fishermen will be governed by state rules and regulations. The state retains authority to enforce these rules and regulations.

Habitat rehabilitation programs, such as the reestablishment of riparian vegetation, noxious weed control, etc., will be carried out cooperatively with the state and counties involved.

Certain irrigation devices required for maintenance of resources discussed under agricultural uses will be maintained in the future as in the past, but channelization of the river at Sheep Rock will not be. An attempt to recreate a natural meander flow will not, conversely, be made either. Should channel cuts or streamside alteration occur through a natural course of events, no "corrective" action will be taken. No new artificial control of the channel flow will be instituted in the future. Hence, habitat for beaver, mink, waterfowl, fish, etc., will be improved over a gradual long-range natural process of counter "reclamation." Fields which become affected from this process will be taken out of production. One exception to this management action, or inaction, would be the erosion and flood protection for highways and highway structures (culverts, bridges, embankments, etc.).

Reintroduction of extirpated species will be considered, subsequent to feasibility studies in each particular instance. An analysis of feasibility for reintroduction of the California bighorn is of first priority. An interagency committee, similar to one at Lava Beds National Monument, is proposed to act in an advisory capacity. All management actions, if the program is undertaken, remains the responsibility of the Monument Superintendent.

Management Category E: Water

Current Conditions

Traveling through the John Day valley on Highway 26 and 19, within the Sheep Rock Unit, visitors view formations which have been exposed by the

erosive action of the John Day River. Numerous small and mostly intermittent streams drain all three units to expose fossil clay beds. In the spring, run-off from these formations colors the water green, red and pink.

During periods of peak flow in the John Day River (Sheep Rock Unit) and Bridge Creek (Painted Hills Unit), bank cutting and sloughing of the cultivated lowlands adjacent to them continually occurs.

One of the numerous discharge measurement stations for the John Day River Basin, in existence since 1927, is located within the Sheep Rock Unit at Picture Gorge. The U.S. Geological Survey gauge number 14-0405 shows how the run-off of the river has decreased in the valley in the 55 river miles downstream from Prairie City (taken from Review of Water Power Classifications and Withdrawals, John Day River Basin, 1973, pages 17-18).

At Painted Hills, portions of Bridge and Bear Creek are under consideration by the Soil Conservation Service for irrigation developments according to the 1973 review of the John Day River Basin. More recently, Brooks Resources, Ind., owners of land within and adjacent to the Painted Hills Unit, has begun construction of an earth dam which will impound approximately 500 acre feet of water for the purpose of irrigation. The dam site is located just north of the Monument.

Approximately 200 acres of land in the Sheep Rock and Painted Hills Units are cultivated. (Ninety-seven percent of the cultivated bottom lands in the John Day Basin is irrigated from natural stream flow.) Water shortages do occur because of the wide seasonal variance.

Water rights on the Cant Ranch property date back to 1899. The irrigation and stream banks may be stabilized to prevent erosion that could harm the system which has watered these fields for nearly 80 years consists of approximately 2½ miles of irrigation ditches within the Sheep Rock Unit. to record fluctuations that would be detrimental. Water sources

John Day River and Bridge Creek waters provide numerous hours of enjoyment for visitors--fishing, swimming, and floating. These streams play an important role with the State Fish and Wildlife Commission by producing salmon and steelhead spawning beds.

A monitor and identification system of critical erosion areas will be established. The average annual precipitation at the three units is low as evidenced by the 12.84" recorded at Mitchell; 14.22" at Fossil and 11.72" at Dayville, erosion. Water control devices will be constructed to trap debris which can be considered to be comparable with the Painted Hills, Clarno, and Sheep Rock units respectively. However, a serious problem lies in severe thunderstorms and flash flooding such as the Mitchell flood in 1956, when about 4" of precipitation fell within a three-hour period causing extensive flooding and damage in the Bridge Creek (Painted Hills) area.

Necessary ditches, head gates, etc., will be trained and operated. Small landslides are quite common in the Sheep Rock area. This normally occurs after rains and a drying-out period. Vigilance is on-going for fallen rock along Highway 26 and Picture Gorge after rains, as rock slides take place frequently. There has not been a serious flood in the Sheep Rock Unit since the 1964/65 flood which was caused by heavy snowfall and rain followed by warmer weather.

Condition Sought

Water sources and courses will be protected from being depleted or reduced to a quality below acceptable environmental requirements. River

and stream banks may be stabilized to prevent erosion that could be harmful to other values being protected. Water sources may be monitored to record fluctuations that would be detrimental. Water sources may be developed and storage facilities established if deemed necessary to protect and perpetuate primary natural or cultural requirements.

Proposed Management Action

A monitor and identification system of critical erosion areas will be established. When the tributaries or main channels develop active gully erosion, water control devices will be constructed to trap debris and soil to slow the process if determined to be induced by man's influence and if effective implementation can be accomplished within Monument boundaries.

Irrigation will be permitted in the Sheep Rock Unit as long as hay production occurs. Necessary ditches, head gates, etc., will be maintained and operated.

The Monument will support the Oregon Fish and Wildlife Commission in all efforts made to determine desirable water flow and water quality standards needed to sustain fish populations. The Monument will also cooperate on stream surveys with the Oregon Fish and Wildlife Commission and the U.S.G.S.

Continued research by the U.S.G.S. will be requested with the objective of obtaining potable water at Clarno, Painted Hills, Foree and Turtle Cove.

Management Category F: Fire

Current Condition

Most of the vegetation within the three units of the Monument consists of semi-arid, sagebrush steppes. Vegetative cover is sparse in most areas, however isolated islands of nongrazed native bunch grasses communities do occur in some of the steeper more protected locations.

Private and Bureau of Land Management lands surround National Park Service lands at all three units of the Monument.

No fire management plan has been formulated for the Monument. Present policy consists of suppression of all fires on Federal lands within the boundaries. Fire suppression and presuppression activities with the assistance of Monument staff members are currently contracted out to the State of Oregon. Prescribed burning is scheduled to take place in the fall of 1978 on 250 acres of private lands immediately adjacent to the boundary of the Sheep Rock Unit.

Condition Sought

The role of fire on Monument lands needs to be established. Fires, then, should be controlled when they jeopardize natural or cultural values, and utilized when necessary to maintain and perpetuate natural conditions.

Proposed Management Action

The small size of the various units of the Monument, coupled with the ranching interests which surround it, mandate that all range fires be

suppressed until a fire management policy can be formulated.

Prior to formulation of such a policy a research project should be undertaken to determine the ecological role fire has played in the past and recommend management actions for the future.

Resource Categories

II. Cultural Values

Management Category G: Historical Scene

Current Condition

Several themes that relate to Monument history are the Columbia Plateau Indians, exploration and discovery, trapping, ranching, and paleontological research. Location of physical evidences and historical documentation need to be researched. Additional themes may also develop as a result of further research.

The principal cultural facility is the Cant Ranch. The ranch grounds currently reflect the character of an early 1900's working ranch. Interpretive, maintenance, housing, and storage functions now occur in several of the ranch buildings.

A photographic file of current ranching operations is being compiled. Several tapes are now on file recording recent events which have occurred at the Cant Ranch. Principal interviewees are Lillian Cant Mascall and James Cant, Jr.

Condition Sought

A ranch scene that portrays an authentic working ranch of the early twentieth century. The home will be sufficiently furnished to typify homelife in that era. A portion of the home may be used for interpretive purposes to enhance understanding of the ranch and the area in which it is situated.

Farm buildings should be outwardly authentic and in some cases, such as the barn, functional. Others may be adapted for other functional use.

Farm implements and machinery will be located around the building in a manner it would have been when functional.

Appropriate agricultural uses will continue, enriching the authenticity of a working ranch.

Proposed Management Actions

A "Historic Resources Study" is the first action to be taken. This study will:

- a. Document all historic resources within the Monument.
- b. Provide a historic base map of the Monument.
- c. Identify and establish the significance of historical themes.
- d. Identify additional studies, reports, plans, or guidelines necessary to manage the historic resources of the Monument, including the Cant Ranch.

Oral documentation of history and use of the Cant Ranch through recorded interviews will continue in order to assure accuracy and excellence in interpretation of the Cant Ranch and early use of the John Day Valley.

The Cant Ranch will be maintained, in appearance, as a working ranch of the early 1900s. Any special maintenance needs that may be required will be detailed in the Historic Resources Study.

A Historic Structures Report will be completed. This project could be done by the Regional Historical Architect. This document will provide the information needed to retain the "historic" appearance of structures and the immediate surroundings (fenced yard and outbuildings).

Management Category H: Agricultural Use

Current Condition

As a condition of Monument authorization, the National Park Service is committed to permit continuation of a limited amount of grazing (until permittee voluntarily relinquishes grazing privileges). At present, three separate valid grazing leases are in effect (two at Sheep Rock and one at Clarno), on 1,273 acres. One hundred forty-seven animal unit months are authorized. Two other leases, one each at Sheep Rock and Clarno, were not renewed in the spring of 1976. As part of the negotiated land settlement, 875 acres of lands previously owned by the Cant family at Sheep Rock will continue to be grazed and used for hay production until December, 1982, but not used for grazing thereafter.

In each of the three units, many of the existing fences are either improperly placed or in such condition as to warrant replacement. Boundary surveys are underway at the Sheep Rock Unit. The Painted Hills boundary survey was completed in 1977.

The state of Oregon erected three miles of barbed wire fence on each side of the road in the late 1960's, to keep animals and motor vehicles from traversing and defacing the Painted Hills. Public concern over the defacement of the colorful Hills brought about this action.

A warranty deed conveying lands of Painted Hills to the state of Oregon in 1947, and a final judgment given in 1971 by the Wheeler County Circuit Court of the state of Oregon, brought up a question concerning fencing

and easement for a cattle and equipment passageway. Legal opinion is being sought.

Condition Sought

Agricultural use (grazing) will be limited to those lands in the Sheep Rock and Clarno Units that are provided for through negotiated land settlements. At the Cant Ranch grazing will be terminated in 1982 but hay production may continue as historical interpretation.

Grazing stock will be confined to the designated parcels so as to avoid interference with natural conditions in the Natural Zone.

Fences may be used to protect paleontological values from being intruded upon by stock from outside the Monument.

The use of herbicides, insecticides, or other chemicals will be permitted only when it is determined that natural or paleontological features will not be affected and no other control is possible; then, approval must be specifically authorized by the superintendent.

Proposed Management Action

The three remaining grazing leases will continue to be honored until the permittees are willing to relinquish them. Private lands presently owned may continue to be used after acquisition for a period of time as a condition of negotiated land settlements. Grazing will not be permitted on Monument lands acquired in fee title except as previously mentioned.

After grazing is eliminated from the Cant Ranch lands, fields will continue to be maintained as producing hay fields in order to retain

the ranch-like atmosphere and scenic qualities of this portion of the John Day Valley.

Fencing of all appropriate Monument lands will be accomplished wherever feasible to insure protection of the resources against stock trespass and to permit recovery of the vegetation.

Management Category I: Archeology

Current Condition

An archeological survey of the Monument was conducted in 1976 by Oregon State University under National Park Service contract. The results of the survey are reported in a manuscript entitled, "Final Report, Survey of Historic and Prehistoric Resources in the John Day Fossil Beds National Monument" by Wilbur A. Davis. The survey covered, generally, the areas of the Monument judged most likely to yield remains and areas where visitor or administrative facilities might be developed. The portions of the area covered by the survey, by no means was the entire Monument included, are depicted in the report cited above.

The only significant archeological remains recorded by the survey were pictographs along Highway 26 in the Sheep Rock Unit. The pictographs are on state highway right-of-way and are thus not on Monument lands.

Additionally, three sites of possible archeological significance were located; a rock shelter, which may or may not have been used by Indians, the remains of a sod house of the early historic period, and a possible prehistoric or historic Indian house pit. The latter is located in the Painted Hills Unit and the rock shelter and sod house in the Picture Gorge Unit. The investigations undertaken during the survey were not sufficient to determine their significance.

Condition Sought

As mentioned previously, not all of the Monument has been searched for archeological resources. Nor is it necessary to do so. Steps must be

taken, however, to insure that unrecorded resources on unsurveyed lands are protected from inadvertent damage.

The rock shelter, sod house and house pit should be protected from damage from vandalism or park development. Their significance should be assessed, and if worthy, they should be nominated to the National Register of Historic Places.

Proposed Management Action

Any maintenance, construction or other activity which will result in disturbance to the ground surface will be preceded by a check of the survey report to determine if the area was covered. If an unsurveyed portion is involved, the Regional Archeologist should be consulted to determine if an archeological field inspection is needed.

Further archeological investigations are needed at the rock shelter, pit house, and sod house to determine their significance.

Should new land be added to the Monument, they should be surveyed. Work by the Oregon Museum of Science and Industry indicates that archeological sites are present on lands currently proposed for addition to the Monument.

Protection of the pictographs is the responsibility of the State Highway Department. Park management should cooperate with them, however, to insure their protection. The park should photograph them, or arrange to have them recorded in some way, to insure record of them survives. Copies of the illustrations should be filed with the University of Oregon Museum of Natural History, which is the central repository for archeological site survey records in the state.

Appendix

A list of reports, papers, publications and investigations referred to in this Resources Management Plan is as follows. They should be considered an integral part of the plan.

1. A Report to the National Park Service on the Significance, History of Investigation and Salient Paleontological Features of the Upper John Day Basin, Wheeler and Grant Counties (1967), J. Arnold Shotwell.
2. Plants and Plant Communities of the John Day Fossil Beds National Monument (1977) by Berta A. Youtie and A. H. Winward. NOTE: A Bird list is also included.
3. Paleontologic Information, John Day Fossil Beds National Monument (February 1, 1976), Dr. John Rensberger.
4. Bird List, Clarno Unit and Surrounding Area (summers of 1975 and 1976), Sandra Palmer.
5. Scope of Collections Statement, prepared by Monument staff.
6. Report on Archaeological Sites Within the John Day Basin (1967), David Cole.
7. Final Report on Prehistoric Resources in the John Day Fossil Beds National Monument (1977), Wilbur A. Davis.
8. Preliminary Hydrologic Report, 1976-77, U.S.G.S.
9. Raptors of John Day Fossil Beds National Monument (1978), James Stewart.
10. The Natural History of Camp Hancock and the Clarno Basin, North Central Oregon (1976), Oregon Museum of Science and Industry.

Various investigators have worked and recorded information pertinent to various aspects of resource components. A continuing objective of this plan is to locate and obtain a complete bibliography. Notable among these investigators are the following:

Thomas Condon (1870's), paleontology

Joseph LeConte (1870's), paleontology

Dr. John D. Merriam (1899-?), : "

Dr. Ralph W. Chaney (), "

James Riggs, OMSI (1966), archeology

Brian Gannon, OMSI (presently), archeology